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A COMPARATIVE ANALYSIS OF THE HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT OF MULTINATIONAL CORPORATIONS IN INDONESIA WITH REFERENCE TO INDUSTRIALIZATION

Mitsuhide Shiraki

INTRODUCTION

In respect of economic development, especially industrialization in Indonesia, how have foreign multinational corporations (MNCs) performed and what kind of human resource development and management practices have been established within those companies? Did they have any special characteristics or did they face any special problems? This paper aims at making it empirically clear and then considering its meanings. Whenever we try to characterize MNCs, we must conduct a comparative study between MNCs and local companies based on empirical evidence. Even among MNCs, there are major differences in factors such as the starting time of operation, industry concentration, and technological characteristics according to the nationality of ownership. It is therefore inevitable that a study like this pursues a comparative analysis.

Even among local companies, there are many varieties in capital composition from purely private companies to strategic state or public companies which are especially important in the Indonesian context [(1)]. Depending on the difference of capital composition, company objectives and the measures of human resource development and management should differ from each other. It is supposed

that foreign companies introduce their specific personnel measures, which have been developed in their home countries, into the country where they invest. This is because through the control of affiliated companies abroad, or more concretely through management expatriates and the system of instruction and orders, these specific measures are implemented on a daily basis. At the same time, as the operation period becomes longer and the equity share of local capital tends to increase, more technology is transferred, and more management posts are given to the local personnel. The influence of this factor should then become weaker. However, the introduction of new technology and new products have dynamic effects upon the process.

This paper surveys briefly the related literature of research conducted so far, and then describes the situations of industrialization in Indonesia, foreign direct investment, and the foreign businesses in manufacturing. It then examines rather precisely the realities of human resource development and management within companies. Here the study relies heavily on the result of a questionnaire survey of large companies in Indonesia which was conducted by the writer recently. In the following analysis, the differences of nationality of capital ownership will be employed intensively as an analytical framework. The concluding remarks follow this analysis.

1. A BRIEF SURVEY OF THE RELATED LITERATURE

Studies have been done on the human resouce development and management practices conducted by Japanese companies, and the nature of industrial relations they face in Southeast Asia. Such field case studies include the following: ASEAN Kenkyu Gurupu (ASEAN Study Group) (1982–83), ASEAN Kenkyu-kai (ASEAN Study Team) (1985), and Ishida (1985). Studies based on questionnaire surveys include the following: Ichimura (1980, 1985, 1988), Nihon Rodo Kyokai (The Japan Institute of Labour) (1986), Shakai Keizai Kokumin Kaigi (Social and Economic Congress of Japan) (1989), and Koyo Jyoho Senta (The Centre for Employment Information) (1990). The common characteristics of these studies are that they employ the same method, that is, they extract the features and problems of Japanese companies in Southeast Asia from the experiences and viewpoints of Japanese expatriate managers.

The way of human resource development and management practices is in some ways constrained by the stages of economic development and the maturity of labour markets. More concretely speaking, the companies' degree of freedom in deciding the measures for human resouces are strictly constrained by the diffusion, contents, and level of education of the society concerned, the accumulation level of human resouces with management expertise or skills, and so on. For example, when expertise or skills are scarce, it is inevitable for companies to employ the internal policy of human resouces,

that is to retain and train persons without any experience of jobs within their organization. Nihei, Levin and Ohtsu (1982) have conducted a comparative study to determine whether or not a clearcut relationship exists between a country's level of industrialization and its labour market institutions based on the employment practices of ten spinning factories from five Southeast Asian countries including Hong Kong, Malaysia, the Philippines, Taiwan, and Thailand. After carefully observing the three features, that is, the wage system, the way in which job vacancies are filled, and the rate of turnover, they concluded that as the level of economic development rises like in Hong Kong and Taiwan, the employment practices tend to become closer to the neoclassical model of the competitive labour market because of the increase in the supply of skilled workers, while those factories in the less developed countries hire inexperienced workers and train them internally and tend to organize the internal labour markets. However, as operators' wages are calculated on a piece-rate basis comparatively more often in the Hong Kong and Taiwan factories (p.164), the above conclusion that open labour markets prevail more generally in these countries could be affected considerably by the sampling bias.

There are few studies, however, which are based on the following question: What kind of differences and similarities in the field of human resouce development and management are there among firms according to their nationality of ownership including local companies? If they exist, why and how do these differences and similarities appear in the Southeast Asian settings? Shiba (1973) conducted an intensive and original research, adopting the method of actually staying in the plants for long periods of time in order to collect data on 57 thermal power plants in eight countries — the USA, Canada, Japan, India, Pakistan, Singapore, Malaysia, and Thailand. He extracted three factors — technology, human physiology, and social structure — which have a major impact on labour management. The aspects of labour management which have strong connections with skill formation such as speed of promotion, job, and worker's attributes (such as age, education, length of service) are regulated by the technological factors. Technological factors as well as physiological factors operate irrespective of national boundaries. However, certain areas of labour management have what is described as national features. It is in these areas where the factor of social structure exerts its influence. The relative heterogeneity or homogeneity, which is one element of social structure, exerts its impact on promotion, wage determination, and in-grade wage differentials. On the other hand, the dual social structure, which is another element of social structure and is attributed to the colonial inheritance, exerts its impact on inter-personal relationships and wage differentials between jobs. His study is clearly confined within the public sector and its research does not target the human resource development itself.

Koike and Inoki (1990) have observed carefully the width and depth of skill formation at several work places from several different industries in Japan, Thailand, and Malaysia, and found that even with nearly the same facilities, there remains a wide gap of productivity which could be caused by skill differences. This skill is conceptualized as 'the intellectual skill' which is vitally needed in unusual operations such as dealing with changes and problems. " · · · Japanese labour productivity is three times or more that of the other two. · · · a large part of the gap originates from workers' skill. In fact, workers' skill is an extremely important variable in an economy, more so than is usually realized." (Koike and Inoki 1990 p.23)

Odaka (1989) has conducted case studies of skill formation mainly in the machine industry in such countries as Japan, the Philippines, Taiwan, Korea, Thailand, and India, as well as a comparison of the level of key skilled workers in Japanese automotive plants in Taiwan, India, Indonesia, Malaysia, the Philippines, and Thailand. The latter study employs a method in which Japanese production engineers appraise the level of local key skilled workers compared with the level of Japanese key skilled workers who are working in Japan as a frame of reference. The main finding of this comparative study is that the skill level itself of key skilled workers in those Asian countries is high and the problem is out of motivation. In other words, the productivity increase relies heavily on the human resource management itself. This study could imply the need to advance the career paths of these skilled workers to motivate them. At the same time, this study may imply that upgrading the skill level of the general workers could be a more important problem of human resource development.

Now it is clear that the above brief review describes our knowledge of the current state of human resource development and management in Southeast Asian countries from the viewpoint of Japanese companies and managers or from the comparative studies of different countries. But still, there are only a few studies involving European, American, Japanese, and Asian NIEs companies as well as local companies, and considering whether they have the special characteristics or face any special problems in the field of human resource development and management. There are some studies based on this research interest including Shiraki (1992) and Inoue (1993).

Shiraki (1992) has compared Japanese, European-USA, and NIEs companies as well as local companies in Thailand and found several special features of personnel development of local employees at overseas Japanese enterprises. Firstly, the educational standards of local managers and engineers are the lowest at Japanese enterprises compared with those of different nationality. Secondly, internal promotion of employees is more often found in Japanese companies and moreover, there are smaller salary differentials between those with little education and those with extensive education when compared among

different capital ownership. Thirdly, this encourages on the one hand career formation among employees with lower levels of education, resulting in a strong commitment to one's enterprise and longer periods of service years. On the other hand, this could cause the high propensity of white-collar or highly educated employees toward frustration and ultimately impede the retention of highly educated and qualified personnel for Japanese enterprises.

Inoue (1993) has widely reviewed the administrative rules and procedures concerning the use of internal human resouces in Japanese transplants abroad to try to evaluate the effectiveness of internal labour markets. Among his many findings, there are several points to note. Firstly, to encourage the development of job flexibility and facilitate a smoother and more efficient job rotation, there is a case of a truck assembly shop in Thailand which makes skill inventory maps to show for every worker how many skills they have attained and how many skills they must develop from now. Secondly, the length of service of employees is widely used by the firms as proxy for training investment. The transplants in Asia put more emphasis on length of service than those in North America in pay decisions even though they also use pay by job systems and do not have written seniority rules as they have in America, although there are of course wide variations according to local labour markets.

2. INDUSTRIALIZATION AND FOREIGN COMPANIES IN INDONESIA

(1) Foreign Direct Investment (FDI) Policy and MNCs

FDI policy in Indonesia can be roughly divided into three periods, namely the first open period (1967~74), the closed period (1974~84), and the second open and outward-looking period (1984~). It is noteworthy that the open policy for FDI after 1984 not only eased the restrictions on FDI but also located FDI along with a series of export-oriented policies. (See Pangestu 1991.)

Let us consider then the current situation of FDI. Companies from Japan and the USA have been by far the largest investors with surprisingly high sectoral specialization by each of the two countries. Japan dominates the non-oil sectors, accounting for almost 70 percent of realized investments over the period of 1967–85. USA investments in these sectors have been much smaller, accounting for only 5 percent for the period. This percentage is a good deal smaller than those of both European and Asian countries (Hong Kong is the main investor here). In the oil sector, whose share of the total investment is more than half, however, the USA has accounted for almost 80 percent of the total. Putting the two series together provides the source country shares for Indonesia as a whole. Thus, the USA has almost 60 percent and Japan has only about 20 percent for all sectors. (See Hill 1988, pp.54–55.)

Since 1987, Indonesia has observed the upsurge of FDI in the non-oil sectors

(Soesastro 1993). Over the four-year period, 1988–1991, cumulative approvals of FDI (US$26.7 billion) surpassed by 1.27 times those (US$21.1 billion) for the previous 20 years, namely 1967–1987. As of the end of 1991, cumulative approvals of FDI amounted to US$47.8 billion. Of this total amount, Japan accounted for 23.3%, whereas investment from the four Asian NIEs accounted for 23.8%, already reaching a level which is slightly higher than that of Japan. Of the additional investments during 1988–1991, Japan's share was 15.7%, whereas the share of the NIEs was 27.7%. Thus the upsurge of FDI after the late 1980s is mainly caused by the aggressive increase of the Asian NIEs.

Overall, distinguishing characteristics of the Asian NIEs is their export orientation. In 1990, 83.6% of the Asian NIEs' projects are export oriented, much higher than those of Japan (59.2%) and the USA (37.5%). Especially the Korean and Taiwanese investments, which are relative late-comers and are more highly concentrated in manufacturing, have come with the explicit purpose of using Indonesia as a new, low-cost export base (Thee 1991).

(2) Ownership Shares in Manufacturing [(2)]

The 1986 Economic Census by BPS provides the data for ownership in 1985 for Indonesian manufacturing. Among ownership categories, two categories were picked, that is, wholly foreign-owned firms (F) and private-foreign joint ventures (P/F), excluding joint ventures with public sectors. As shown in Table 1, for the large and medium firms which employ at least 20 workers, the share of wholly foreign-owned firms is very small, simply reflecting 'the prohibition on new enterprises of this type after 1974 and the pressure on existing ones to divest' (Hill 1991 p.26). These foreign firms employ less than 8.7% of factory workers and are producing 18.3% of factory value added. But when we take into consideration the value added of the oil and gas sector, which consists of oil refining (wholly government owned) and gas processing (almost all government-foreign joint ventures), the share of foreign firms decreases to 10.8%. This calculation should also be applied to employment, but the data are not available.

Table 1. Ownership shares and labour productivity by ownership (1985)

	Private	Government	Foreign	Government (JV)	Total
Firms	92.2	1.5	3.1	3.2	100.0[a)]
Employment	74.9	1.3	8.7	15.1	100.0[a)]
Value Added	55.8	0.8	18.3	25.1	100.0[a)]
	(38.8)	(15.8)	(10.8)	(34.7)	(100.0)[a)]
Productivity	74	58	210	166	100[b)]
	(47)	(832)	(133)	(237)	(100)[b)]

(notes) 1) a=share, b=average.
2) Figures within parentheses are those including oil and gas.

The factor proportion of the ownership groups varies largely, using value added per employee as proxy for capital intensity. Excluding oil and gas, which are enormously capital intensive, we find that foreign firms are far more capital intensive than private firms[3]. There are two reasons for this. Firstly, foreign firms are located in more capital intensive industries. Secondly, foreign firms adopt more capital intensive technologies within industries, except for industries such as garments, printing and publishing, rubber products, and pottery and china.

Annual labour costs per employee should give us a general idea of the wage level differences of both foreign firms and private firms. As Hill (1990b, table 24) has shown, annual labour costs of large and medium foreign firms are about two or three times those of private firms. Disaggregation by both industry and firm size enables us to have more detailed pairwise comparisons showing that "in about half the cases (11 out of 21) foreign firms pay more by a significant margin (at least 20 percent higher). However, in six cases the difference is not significant, while in the remaining four private firms offer better conditions." (Hill 1990b, p.102) Needless to say, these labour cost data should be carefully interpreted, because these data tell nothing about workforce attributes and working conditions such as working hours and the seasonal or casual nature of working contracts which are more commonly observed in smaller firms.

3. MNCS AND HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT: A QUESTIONNAIRE SURVEY OF LARGE CORPORATIONS

(1) Analytical Framework

Amid the rapid industrialization and the modernization of employment structure, employers are still in the buyers' market, or in the Lewisin sense, a surplus labour economy (Jones and Manning 1992). According to the survey of 33 manufacturing companies, however, while a shortage of workers did not appear to be a problem, almost all (30 out of 33) of the companies experienced problems with a lack of managerial skills and all of the companies indicated having a problem with lack of technical skills (CSIS 1990 P.130). In other words, this "mismatch" has been one of the biggest problems in the Indonesian labour markets. One indicator of the growing mismatch is the rapidly rising unemployment rate, especially among the better-educated urban youth (Pangestu and Oey-Gardiner 1992 pp.68–71).

Under these circumstances, what kind of measures of human resource development and management have been taken by companies managed in Indonesia and do they have any specific characteristics? Let's examine these aspects depending on the questionnaire survey which was conducted in 1992 for 1,000 large Indonesian companies, of which 177 companies responded. These

included non-manufacturing companies, but to control the technological factors as much as posible, we shall limit our analysis here to the manufacturing sector which contains 131 samples (74%).[4]

We are particularly interested in observing the differences which could be caused by the attributes of capital ownership. Using the criterion of whether the capital includes any foreign source or not, we can classify the companies into two categories, namely the foreign MNCs which include any foreign capital, and local companies which include no foreign capital.[5]

Using the criterion of countries accounting for the biggest proportion of the foreign source, we can subdivide the MNCs into several sub-groups. For this sub-division of the samples, we can adopt the three categories of European-USA companies, Japanese companies, NIEs companies. We could not find any other foreign capital ownership outside of these categories in our manufacturing samples. Thus, the number of categories according to capital ownership becomes four, namely, local companies, European-USA companies, Japanese companies, and NIEs companies. There are several reasons why we have adopted these categories.

Firstly, there are wide differences of FDI among countries. The FDI of Europe-USA specializes in the chemical industry, while that of Japan specializes in the textile industry and the basic metal industry as a public project. NIEs have not only concentrated in both the textile and chemical industries but also, as we have pointed out already, their investments have begun recently except for Hong Kong which has a longer history of investment.[6]

Secondly, it is often said that there are big differences in management practices especially between Japanese companies and European-USA companies. For example, 'it is frequently rumoured throughout Southeast Asia that Japanese investors are slow to promote non-Japanese to managerial positions' (Tsurumi 1980 p.308). Tsurumi (1980) stresses two points that may distinguish Japanese from other investors. Firstly, the specific nature of Japanese manufacturing processes, especially "the narrow range of skills" of Japanese engineers, technicians, and even managers, often makes it necessary for the investing firm to send in a team of Japanese "instructors". Secondly, subsidiaries with more than one Japanese partner are likely to let each Japanese partner send its own man, which may explain why Japanese subsidiaries have a larger number of expatriate managers than other foreign ventures do. Soehoed (1981, pp.135–137) has typically grouped the MNEs into two main categories viz. the Japanese group and the European-American group. He says on one hand that while some Indonesian nationals have occupied important posts in Japanese production units, there are often considerable discrepancies between stated job description and day-to-day responsibilities, and that practices which proved successful in considerably increasing the levels

of productivity and efficiency have not been applied in Indonesia. On the other hand, he points out that apparently the European-American group operates under the broad policy of their headquarters to transfer as much skill as possible to the Indonesian nationals and the Indonesian nationals have occupied important posts and carried out day-to-day responsibilities in even strategic areas, and thus, the group recruits aggressively Indonesian nationals even for the strategic posts. Kinoshita (1986) has pointed out that there are 'different modes of operation' between Japanese companies and European-American companies in the deployment of expatriates, and the reasons are attributed mostly to the fact that European-American expatriates, who are generally engaged on short-term contracts, are reluctant to live and work in Indonesia. On the other hand, Japanese management staff accept being sent to the location where they are designated (ibid., pp. 53–54). But we must bear in mind that those companies both of European-American and Japanese often are in different industries as we have seen already.

Thirdly, it is assumed that there are differences between MNCs and local companies in the field of human resource treatment. Hill (1991) has surveyed some literature concerned and pointed out that 'the field survey data do point conclusively to the fact that foreign firms do make considerable investments in training, on a scale at least equal and probably exceeding that of the largest domestic firms' (ibid., p.43). According to the intensive comparative study of the differences of career formation in larger manufacturing companies, there is a striking difference between Japanese and local companies. This comparative study was conducted by Yamamoto (1987 · 1990) from the viewpoint of both the type of labour force and career formation.(7)

We shall now analyze the sample data according to the four divisions of company groups — Local, European-USA, Japanese, NIEs. Before proceeding with our analysis, we should look at the differences in industry composition according to these company groups. Table 2 shows the industry composition. From this table, we can see that European-USA companies are highly concentrated in the chemical and pharmaceutical industry, while Japanese companies are concentrated in both the textile and garments industry and the steel and machines industry. This tendency of industry composition is quite in accordance with the argument before, though we cannot say the same about NIEs companies because of the small sampling.

(2) Important Managerial Issues

What are the important and serious managerial issues which Indonesian large companies face? We asked this by multiple choice questions. The results are shown in Table 3. Let us see from the highest ranking items. Firstly, reinforcement of marketing capabilities, 43.5%. Secondly, increase in ability of management, 41.2%. Thirdly, employees' morale and abilities, 38.9%. Thus,

Table 2. The industry composition by nationality of ownership (unit: %, companies)

	food	textile	chemical	ste & mach	others	total
LOCAL	11.0	22.0	12.1	16.5	38.5	100 (91)
EURO-USA	23.1	0.0	53.8	7.7	15.4	100 (13)
JAPAN	4.8	38.1	14.3	33.3	9.5	100 (21)
NIES	0.0	33.3	0.0	16.7	50.0	100 (6)
TOTAL	10.7	22.9	16.0	18.3	32.1	100 (131)

(notes) 1) food=food and beverage, textile=textile and garments, chemical=chemical and pharmaceutical, ste & mach=steel and machines, others=other manufacturing.
2) The number in the parenthesis is the number of samples.
3) Chi square is 31.8814 with 12 degrees of freedom.

Table 3. Important managerial issues (multiple answers but not more than three, %)

Reinforcement of marketing capabilities	43.5
Increase in ability of management	41.2
Employees' morale and abilities	38.9
Reinforcement of QC circle	24.4
Increase in ability of technicians	24.4
Simplification of organization	22.9
Stabilization of industrial relations	20.6**
Aggressiveness in export	18.3
Ability-oriented wage scheme and promotion	16.8
Financial reinforcement	14.5
Development of new products	14.5
Expansion of major products	12.2
Diversification of products	6.9
Reduction of labour costs	5.3
Others	4.6****
Enrichment of basic research	1.5
Promotion of automation	0.8

(notes) The following symbols are used (D.F. 3, chi square).
**** Significant at 0.5 percent. ** Significant at 5 percent.

generally both marketing capabilities and human resource development and management are the most important managerial issues.

On the other hand, we find the very low or even negligible scores in items, such as promotion of automation, enrichment of basic research, and reduction of labour costs. Thus, we see that even in large companies themes such as automation and research and development have not yet become serious managerial issues. Labour costs also impose no burden on large manufacturing

companies.

Only the item of stabilization of industrial relations has significant differences among capital ownerships. The scores are Local 16.5%, European-USA 15.4%, Japanese 28.6%, and NIEs 66.7%. We can say that especially in NIEs companies the stabilization of industrial relations becomes one of the most serious managerial issues. This finding is supported by Manning (1992), and his observation is 'unlike a decade earlier when dismissals were a major reason for labour disputes, concern with wages and working conditions has been the main cause of recent unrest' (ibid., p.35).

The unionization ratios of trade union are local 70.5%, European-USA 92.3%,

Table 4. Communication between management and workers (single answer, % of YES)

	LOCAL	EURO-USA	JAPAN	NIES	TOTAL	CHI[8]
Management information sharing[1]	20.5	61.5	40.0	33.3	28.3	**
Transmission of policy[2]	86.8	84.6	95.2	66.7	87.0	n.s.
Transmission of information[3]	13.2	61.5	28.6	0.0	19.8	****
Roundtable meeting[4]	38.5	69.2	57.1	33.3	44.3	n.s.
Periodical publications[5]	14.3	38.5	9.5	16.7	16.0	n.s.
Recreation activities[6]	39.6	69.2	71.4	33.3	47.3	**
Open facilities[7]	34.1	76.9	61.9	33.3	42.7	***

(notes) 1) Showing the management information such as sales or profit to trade union or employee representative organizations.
2) Conveying the company's management policy through managers & supervisors.
3) Conveying the the management information such as sales or profit through managers & supervisors.
4) Holding roundtable meetings regularly with trade union or employee representative organizations.
5) Circulating periodical publications such as house organs.
6) Holding recreation activities such as parties, excurtions, sports.
7) Opening company's facilities such as canteen to all employees.
8) Chi-square statistics, degree of freedom=3. The following symbols are used.
**** Significant at 0.5 percent. *** Significant at 1 percent.
** Significant at 5 percent. * Significant at 10 percent.
n.s. Not significant at 10 percent.

Japanese 95.0%, and NIEs 66.7%. This difference is statistically significant at 10% level (chi-square). We can say that the Japanese unionization ratio is the highest, while that of NIEs is the lowest. Industrial relations are also strongly connected with the situation of communication between management and workers. Accordingly, we shall take a brief look at it by referring to Table 4. The transmission of a company's management policy through management organization has been attained successfully regardless of capital ownership differences. On the other hand, there are several items which are not successfully introduced in Indonesian companies, such as management information sharing either through employee organizations or management organization, and circulating periodical publications such as house organs. Generally, within this field, European-USA and secondly Japanese go ahead farther than local and NIEs.

(3) The Characteristics of Employment Composition

Let us examine the characteristics of employment composition from several aspects. The total average number of employees per firm is 1,563 persons, and local companies which have 1,848 employees and NIEs companies which have 2,799 employees seem to be much larger than the other two groups in the number. Statistically speaking, the number of employees of local companies is larger than those of European-USA and Japanese companies, and those of NIEs companies are larger than those of European-USA companies but not those of the Japanese. The reason is that the variances of NIEs and Japanese samples are too big. (We spare the data presentation because of the limitation of space.)

We can say that Japanese companies are larger than European-USA companies. However, this significant difference disappears when we compare them in the chemical industry. In this industry European-USA companies have 409 employees (S.D.=276) and Japanese counterparts have 304 employees (S.D. 169), and this difference has no significance at 10 percent level. Thus, we can say that Japanese companies are larger than European-USA companies because of the different concentration of industry. Japanese companies concentrate in the textile industry which employs 2,130 persons on the average while European-USA companies concentrate in the chemical industry which employs only 772 persons on the average.

The total average of female ratio is 35%. The female ratios of local companies which have the ratio of 39.6% and NIEs which have the ratio of 45.2% companies seem to be much higher than those of other groups. Statistically, the female ratio of local companies is higher than those of European-USA and Japanese companies, and that of NIEs companies is higher than that of Japanese companies. (Here also, we spare the data presentation.)

The lower female ratio of European-USA companies can be explained by the

strong concentration in the chemical industry which depends on less female workers. Also the lower female ratio of Japanese companies can be explained both by the concentration in the steel and machine industry which depends on much less female workers[8] and by the fact that even in the same industry that is textile and garments the female ratio of Japanese companies is much lower than those of local and NIEs companies[9].

The total average of university graduate ratio is 3.8%. The ratio of European-USA companies is 9.9% and this is outstandingly higher than those of other groups (See Table 5.). This statement can be strongly supported by the statistical test. There are no significant differences among local, NIEs, and Japanese companies with regard to the university graduate ratio.

The college (Akademi) graduate ratio of all four groups is 3.2%[10]. That of

Table 5. THE RATIO OF UNIV. GRADUATES (UNIT: %, COMPANIES)

	AVERAGE	S.D.	SAMPLES	(T-STATISTICS)	EURO-USA	JAPAN	NIES
LOCAL	3.3	4.1	82	LOCAL	***	n.s.	n.s.
EURO-USA	9.9	6.6	12	EURO-USA	—	****	**
JAPAN	2.4	2.7	18	JAPAN	—	—	n.s.
NIES	2.4	4.5	6				
TOTAL	3.8	4.7	118				

(notes) 1) The following symbols are used.
**** Significant at 0.5 percent. *** Significant at 1 percent.
** Significant at 5 percent. * Significant at 10 percent.
n.s. *Not significant at 10 percent.*
2) N.a. is excluded from the calculations.
3) Before calculation of t-value, f-value are used at 5 percent level to distinguish whether the two observations have the same population variance or not.

Table 6. THE RATIO OF AKADEMI (college) GRADUATES (UNIT:%, COMPANIES)

	AVERAGE	S.D.	SAMPLES	(T-STATISTICS)	EURO-USA	JAPAN	NIES
LOCAL	2.3	2.1	79	LOCAL	****	n.s.	n.s.
EURO-USA	9.0	5.2	12	EURO-USA	—	***	**
JAPAN	3.6	4.7	19	JAPAN	—	—	n.s.
NIES	1.7	2.4	4				
TOTAL	3.2	3.7	114				

(notes) 1) See the notes of table 5.
2) Akademi (college) is the tertiary education course (1~3 years) after senior high school graduation.

European-USA companies is also the highest reaching 9.0% (See Table 6.). This statement is also be highly supported by the statistical test. There are no significant differences among local, NIEs, and Japanese companies about the college graduate ratio.

But why is the university and college or tertiary graduate ratio of European-USA companies the highest among the four groups? Is this phenomenon connected with the fact that European-USA companies are more concentrated in the special industry, that is, the chemical industry? We look for this answer from two aspects: the differences of tertiary graduate ratio by industries and the differences of tertiary graduate ratio within the same industry, that is, within the chemical industry.

The first aspect is self-evident when we see the differences of tertiary graduate ratio among industries. The ratios for food and beverage are 4.6% (S.D. 4.1), for textile and garments 0.8% (S.D. 0.6), for chemical and pharmaceutical 8.6% (S.D. 4.0), for steel and machines 4.8% (S.D. 6.7), and for other manufacturing 2.4% (S.D. 3.2). Secondly, only two differences are statistically significant, that is, the university graduate ratio of European-USA companies is higher than that of Japanese companies, and the college graduate ratio of European-USA companies is higher than that of local companies. Here NIEs companies are excluded because there are no samples in this industry.(11)

The average ages are not so different among the four groups. The average ages of European-USA and Japanese companies are by several years higher than those of local and NIEs companies. This statement seems to be supported by the statistical test. (We omit the data presentation.)

The average length of service years is admittedly very low in the NIEs companies (3.8 years). In other groups (7.4 years for local, 7.3 years for European-USA, and 8.6 years for Japanese companies), there are no significant differences in the average length of service years. (We omit the data presentation.) The lowest length of service years in the NIEs companies is attributed to the fact that they had the shortest length of operation in Indonesia. The local companies' length of operation is 19.2 years (S.D. 15.0), European-USA's 16.9 years (S.D. 15.0), Japanese companies' 15.4 years (S.D. 5.9), and NIEs' 7.5 years (S.D. 6.7). Here we can see that the standard deviation of the Japanese length of operation is exceptionally small, and most of their operations began during the decade of the 1970s.(12)

It is of note that as a trial of standardization of the differences in the length of operation, we can divide the employee average length of service by the length of operation and get the 'stability index'. Interesting enough the stability indices among the four groups are quite the same, such as, Local 64.8% (S.D. 168.8), European-USA 58.9% (S.D. 30.4), Japanese 56.8% (S.D. 22.9), and NIEs 62.1% (S.D. 23.2), and also they are statistically no different from each other, if we omit the data presentation.

(4) The Interaction with External Labour Markets; the Situation of Recruitment and Turnover

Here we observe the interaction with external labour markets through the situation of recruitment and turnover. Table 7 shows the recruitment rate of companies. Local companies and NIEs companies seem to be aggressively recruiting their employees, though this apparent behaviour is not well supported statistically, mainly because of both the big variance of data and the small sample. But we cannot overlook the very strong recruiting drive in the Indonesian large manufacturing companies.

How about the recruitment of highly educated manpower? It is a striking preference of European-USA companies that they very strongly recruit university graduates. (Table 8) This point is also fully supported by statistical test. On the other hand, the Japanese recruitment drive for university graduates is somewhat weaker than that of local companies. The recruitment rate of university graduates of NIEs companies is apparently the lowest. However we should not miss the average strong drive for the manpower from

Table 7. The Recruitment Rate (UNIT: %, COMPANIES)

	AVERAGE	S.D.	SAMPLES
LOCAL	30.1	68.9	85
EURO-USA	9.0	6.1	12
JAPAN	19.6	28.4	21
NIES	42.1	41.8	6
TOTAL	26.9	59.2	124

(T-STATISTICS)

	EURO-USA	JAPAN	NIES
LOCAL	***	n.s.	n.s.
EURO-USA	—	n.s.	n.s.
JAPAN	—	—	n.s.

(notes) 1) The Recruitment Rate = (the number of recruitment in 1991) ÷ (the number of employees in 1992) × 100
2) See also the notes of table 5.

Table 8. The Recruitment Rate of University Graduates (UNIT: %, COMPANIES)

	AVERAGE	S.D.	SAMPLES
LOCAL	11.7	13.8	57
EURO-USA	24.4	14.9	7
JAPAN	9.7	10.9	13
NIES	2.7	3.5	4
TOTAL	12.0	13.7	81

(T-STATISTICS)

	EURO-USA	JAPAN	NIES
LOCAL	**	n.s.	****
EURO-USA	—	**	***
JAPAN	—	—	n.s.

(notes) 1) The Recruitment Rate of University Graduates = (the number of recruited graduates in 1991) ÷ (the number of all recruitment in 1991) × 100
2) See also the notes of table 5.

university education in the larger manufacturing sector.[13]

Table 9 shows the turnover rate of companies. The average turnover rate is 21.8% and the level itself is not low. The turnover rate of local companies is exceptionally high and the standard deviation is very large, meaning that some companies face an extremely high turnover rate. This higher turnover ratio

Table 9. The Turnover Rate (UNIT: %, COMPANIES)

	AVERAGE	S.D.	SAMPLES
LOCAL	25.5	65.7	85
EURO-USA	10.8	6.6	8
JAPAN	10.4	14.0	17
NIES	15.7	13.2	6
TOTAL	21.8	56.8	116

(T-STATISTICS)

	EURO-USA	JAPAN	NIES
LOCAL	*	*	n.s.
EURO-USA	—	n.s.	n.s.
JAPAN	—	—	n.s.

(notes) 1) The Turnover Rate = (the number of turnover in 1991) ÷ (the number of employees in 1992) × 100

2) See also the notes of table 5.

compared with European-USA and Japanese companies is significant, but not when compared with NIEs companies.

The levels of turnover rates are quite different among industries. In fact, the rates by industry are as follows; food and beverage 28.6% (S.D. 75.6), textile and garments 37.3% (S.D. 90.8), chemical and pharmaceutical 5.5% (S.D. 5.7), steel and machines 13.1% (S.D. 14.1), and other manufacturings 17.1% (S.D. 33.5). Admittedly the differences in industry composition among capital ownership groups affect the differences in turnover rates.

So we control for industry and then compare the differences in turnover rate. This time we also compare in both the textile and the chemical industries. Here European-USA companies in textiles and NIEs companies in chemical are excluded because there are no samples in these industries. In textiles, both the local and the Japanese turnover rates are higher than that of the NIEs', but there is no significant differences between the local and the Japanese, mainly because the former has a very large variation among them. In the chemical industry, the Japanese turnover rate at 2% is the lowest. The European-USA rate is the highest, and the local is in-between. This is statistically significant. Thus, we can say that the workforce stability in the Japanese chemical industry is extremely high.[14]

We shall now observe the employment growth rate which is defined as the difference between the recruitment rate and the turnover rate. Apparently, NIEs is the highest at 26.4% and the Japanese is the second highest at 11.2% in increasing their manpower. As we saw earlier, local companies had both a very

high recruitment rate and a very high turnover rate and at the same time the employment growth rate is quite low at 4.4%. So putting it in another way, local companies recruit newcomers very aggressively just to make up the high turnover. European-USA is, in a sense, the most stagnant at 1.7% in employment growth. However, because of the large variation of samples, the above statement is not statistically significant except for the fact that the figures of Japanese companies are higher than those of European-USA companies. (We omit the data presentation.)

Needless to say, the employment growth rate varies considerably among industries. The rate for textile and garments is highest at the level of 21.9% and that for food and beverage is lowest at the minus rate with a very wide variation. In textile the differences among the three groups without European-USA are not significant at all, but in the chemical industry the differences among the three groups without NIEs are relatively clear and here European-USA is the lowest with minus growth.(15)

Next we see the qualitative indices of both the excess/shortage situation and the appraisal of stabilities of employees, both of them being felt by companies. Table 10 shows the former index. From this table we understand that such job categories as sales, technicians, engineers, and managers are felt to be short, while such job categories as direct workers are felt to be rather excessive. There is no big difference in this understanding among the four groups except that the shortage in sales is most felt by European-USA companies.

Then we see appraisal of employee stability in Table 11. Except for direct

Table 10. EXCESS SUPPLY / SHORTAGE SITUATION: the "shortage" ratio above figure and the "excess" ratio below figure (UNIT:%)

	MANAGER	ADMINI.	SALES*	ENGINEER	TECHNI-CIAN	FORMAN/ SUPER-VISOR	WORKERS
LOCAL	22.0	6.6	28.6	26.4	26.4	12.1	16.5
	(6.6)	(12.1)	(4.4)	(4.4)	(4.4)	(9.9)	(26.4)
EURO-USA	23.1	0.0	1.5	15.4	15.4	0.0	7.7
	(0.0)	(7.7)	(7.7)	(0.0)	(15.4)	(0.0)	(23.1)
JAPAN	28.6	9.5	19.0	23.8	33.3	19.0	14.3
	(0.0)	(4.8)	(4.8)	(4.8)	(0.0)	(0.0)	(9.5)
NIES	16.7	16.7	16.7	16.7	16.7	16.7	16.7
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
TOTAL	22.9	6.9	29.8	24.4	25.9	12.2	15.3
	(4.6)	(9.9)	(4.6)	(3.8)	(4.6)	(6.9)	(22.2)

(notes) 1) The "SHORTAGE" includes both "VERY SHORT" and "SHORT", and the "EXCESS" includes both "VERY EXCESSIVE" and "EXCESSIVE" from the single choice question respectively.
2) The symbol (*) used for significance at 10 percent by chi-square with 15 degrees of freedom.

Table 11. THE RESPONDENTS' APPRAISAL OF STABILITY: the "GOOD" ratio above figure and the "BAD" ratio below figure (UNIT: %)

	MANAGER	ADMINI.	SALES	ENGINEER	TECHNI-CIAN	FORMAN/ SUPER-VISOR	WORKERS
LOCAL	30.8	27.5	19.8	15.4	19.8	22.0	15.4
	(2.2)	(0.0)	(5.5)	(1.1)	(2.2)	(4.4)	(20.9)
EURO-USA	38.5	38.5	30.8	15.4	7.7	15.4	15.4
	(0.0)	(7.7)	(7.7)	(0.0)	(7.7)	(15.4)	(15.4)
JAPAN	38.1	19.0	19.1	23.8	19.0	28.6	19.0
	(4.8)	(9.5)	(9.5)	(9.5)	(19.0)	(19.0)	(28.6)
NIES	16.7	16.7	0.0	0.0	16.7	16.7	33.3
	(0.0)	(0.0)	(0.0)	(0.0)	(33.3)	(16.7)	(33.3)
TOTAL	32.1	26.7	19.9	16.0	18.4	22.1	16.8
	(2.3)	(2.3)	(6.1)	(2.3)	(6.9)	(8.4)	(22.2)

(notes) The "GOOD" includes both "VERY GOOD" and "GOOD", and the "BAD" includes both "VERY BAD" and "BAD" from the single choice question respectively.

workers, almost all job categories are felt to be stable. There are no major differences among firms of different nationality.

Thus, we can point out that on the one hand there are such job categories as direct workers which are felt to be unstable but excessive, and on the other hand many categories which need experience and professional knowledge are felt to be quite stable but short. This phenomenon clearly reflects the situation of external labour markets in Indonesia. (See CSIS 1990.)

(5) Treatment and Management within Organization

Here we observe the internal management of human resources. First of all, let us consider the initial salary for new university graduates. Such initial salary stands as proxy for the criterion of how greatly company wage structure differ, presumably being that the wages of unskilled workers are nearly equal among various companies. Table 12 shows that the initial salary of European-USA is much higher than those of other groups. The Local group is the lowest. Statistically, both European-USA and Japanese are higher than local. But it is not clear whether European-USA is higher than both Japanese and NIEs because of the large variances. Admittedly, these results are strongly connected with the fact that there are big gaps among industries. In fact, as you can see from below, chemical is the highest and textile is the lowest; food and beverage 350,455Rp (S.D.209,827), textile and garments 238,777Rp (S.D. 113,614), chemical and pharmaceutical 436,200Rp (S.D. 215,196), steel and machines 348,600Rp (S.D. 152,753), other manufacturing 343,480Rp (S.D. 161,355). To make it clear whether industry composition has a decisive impact

Table 12. The initial salary for new university graduates (UNIT: RUPIA, COMPANIES)

	AVERAGE	S.D.	SAMPLES
LOCAL	292,069	141,454	52
EURO-USA	486,111	214,006	9
JAPAN	372,538	161,857	13
NIES	383,333	104,083	3
TOTAL	331,891	164,190	77

(T-STATISTICS)

	EURO-USA	JAPAN	NIES
LOCAL	****	*	n.s.
EURO-USA	—	n.s.	n.s.
JAPAN	—	—	n.s.

(notes) See the notes of table 5.

on the initial salary differentials, we should take a look at the differences within the same industries, that is, textile and chemical.

The number of samples in each group is strictly limited, so the comparisons are also limited. However, from table 13 we can see something rather clearly. In the textile industry Japanese companies have significantly higher salaries than local companies. In the chemical industry European-USA, which is nearly the sameas the Japanese, is significantly higher than local.

Thus, we can conclude that the initial salary for new university graduates is highest in European-USA, and lowest in local. Both European-USA and Japanese companies could be comparable in the same industry. However, generally speaking, European-USA is higher than Japanese because of the difference of the industry composition. In this sense, they are recruiting different kinds of graduates for different types of work.

Then we observe the situations of promotion by educational background

Table 13. The initial salary in textile and chemical (UNIT: RUPIA, COMPANIES)

a. in textile

	AVERAGE	S.D.	SAMPLES
LOCAL	199,167	75,282	12
JAPAN	339,500	167,146	4

(T-STATISTICS) Significant at 5% level.

b. in chemical

	AVERAGE	S.D.	SAMPLES
LOCAL	258,600	137,404	5
EURO-USA	483,333	213,697	6
JAPAN	450,000	70,710	2

(T-STATISTICS)

	EURO-USA	JAPAN
LOCAL	*	n.s.
EURO-USA	—	n.s.

(notes) See the notes of table 5.

respectively. The promotion index is calculated as follows;

The promotion index = share of top management position (%) × 1
+ share of middle management position (%) × 2
+ share of lower management position (%) × 3
+ share of supervisor position (%) × 4
+ share of senior worker position (%) × 5
+ share of general worker position (%) × 6

Thus, the promotion index lies within a minimum of 100 to a maximum of 600. The smaller the index the higher is the position attained, and vice versa.

The results are shown in Table 14. For university graduates without any working expeience, the initial position is roughly supervisor or the equivalent. Here Japanese is the lowest. The highest position by promotion is around middle management. Here Japanese is the lowest and European-USA is the highest, which is very near to top management. In fact, 63.6% of European-USA companies have univesity graduates who have reached top management, while only 25.0% of Japanese companies have university graduates who have reached top management. When we see the promotion range, that is, the difference between the initial index and the highest index, European-USA is the widest, and this means university graduates have been promoted most. NIEs shows the narrowest range but this reflects its shortest length of operation. Thus, we can say that the Japanese companies provide the lowest

Table 14. COMPARISON OF THE PROMOTION INDEX

(1) UNIVERSITY GRADUATES

	INITIAL	HIGHEST	RANGE
LOCAL	399	182 (44.3)[a]	217
EURO-USA	373	136 (63.6)	237
JAPAN	426	215 (25.0)	211
NIES	367	200 (20.0)	167

(2) SENIOR HIGH SCHOOL GRADUATES

	INITIAL	HIGHEST	RANGE
LOCAL	555	329 (21.9)[b]	226
EURO-USA	542	300 (16.7)	242
JAPAN	584	347 (21.1)	237
NIES	567	400 (0.0)	167

(3) JUNIOR HIGH SCHOOL GRADUATES

	INITIAL	HIGHEST	RANGE
LOCAL	598	453 (44.0)[c]	145
EURO-USA	600	482 (36.4)	118
JAPAN	600	458 (52.3)	142
NIES	600	483 (33.3)	117

(notes) 1) See the text about the definition of the index and its meaning.

2) Figures in parenthesis show (a) the ratio of top management position among highest position of university graduates, (b) the ratio of top and middle management positions among highest position of senior high school graduates, and (c) the ratio of supervisor and higher positions among the highest position of junior high school graduates respectively. Here we excluded the samples both which replied that there was no employee concerned and which did not fill any answers.

initial position and also the lowest position ceiling, while European-USA companies provide the highest initial position, the highest position ceiling, and the widest promotion range. We should be remembered is that there was no significant difference in the length of operation between Japanese companies and European-USA.

Nearly the same thing can be observed in the case of senior high school graduates, although the pattern is not as clear as the case of university graduates. In the case of junior high school graduates, we can observe two points. Firstly, their initial position shows no differnce among the four groups and their promotion range is much narrower than those of university graduates and senior high school graduates. Secondly, narrow though the range is, there is quite a difference in promotion ranges. That is, local and Japanese have comparatively wider promotion ranges than European-USA and NIEs[16]. Again for NIEs, this reflects its shorter length of operation.

We could summarize from the above observation that European-USA provide more hope for highly educated people for promotion prospect. On the other hand, Japanese provide more hope for less educated people for the same prospect. Let us put it in another way: European-USA attach more importance to educational background than Japanese do. Thus in Japanese companies, the differences by educational background should be smaller than European-USA counterparts at least in terms of promotion prospect.

To find out about the degrees of internal training and development or internal promotion of management, engineers, technicians, and supervisors/foremen, we have Table 15. We see the table from the viewpoint of whether more than half of some post is filled by outsiders with suitable qualifications or more than half of the post is filled by insiders who were recruited when they had no working experience and have been nurtured within the companies. Firstly, we see that the ratios that more than half of some post is filled by outsiders are quite different by the posts or jobs. The posts of managers are highly dependent on outsiders, while those of technicians and supervisors/foremen are filled mainly by insiders.

Secondly, along with these general tendencies, we see at the same time the large differences in filling posts among different capital ownerships. We observe the consistent tendency of Japanese companies which rely heavily on internal promotion for each post when compared with European-USA counterparts which rely more on outsiders. This contrast is especially significant at the level of the supervisor/foreman. NIEs companies rely heavily on internal promotion because their lengths of operation are very short and they must train their employees heavily at the port of entry to the employment at the moment or in other words their internal labour markets are still very shallow.

Table 15. THE DEGREE OF INTERNAL PROMOTION (UNIT: %, COMPANIES)

(1) MANAGER (*)

	100% FROM OUTSIDE	MAINLY FROM OUTSIDE	50% OUTSIDE 50% INSIDE	MAINLY FROM INSIDE	100% FROM INSIDE	TOTAL(N)
LOCAL	24.1	38.0	30.4	7.6	0.0	100.0 (79)
EURO-USA	8.3	58.3	33.3	0.0	0.0	100.0 (12)
JAPAN	11.1	22.2	38.9	16.7	11.1	100.0 (18)
NIES	16.7	50.0	16.7	0.0	16.7	100.0 (6)
TOTAL	20.0	38.3	31.3	7.8	2.6	100.0 (115)

(2) ENGINEER (**)

	100% FROM OUTSIDE	MAINLY FROM OUTSIDE	50% OUTSIDE 50% INSIDE	MAINLY FROM INSIDE	100% FROM INSIDE	TOTAL(N)
LOCAL	7.9	39.7	27.0	20.6	4.8	100.0 (63)
EURO-USA	10.0	70.0	10.0	10.0	0.0	100.0 (10)
JAPAN	25.0	12.5	12.5	31.3	18.8	100.0 (16)
NIES	0.0	0.0	0.0	66.7	33.3	100.0 (3)
TOTAL	10.9	37.0	21.7	22.8	7.6	100.0 (92)

(3) TECHNICIAN (**)

	100% FROM OUTSIDE	MAINLY FROM OUTSIDE	50% OUTSIDE 50% INSIDE	MAINLY FROM INSIDE	100% FROM INSIDE	TOTAL(N)
LOCAL	3.8	20.3	36.7	36.7	2.5	100.0 (79)
EURO-USA	10.0	40.0	40.0	10.0	0.0	100.0 (10)
JAPAN	10.5	5.3	31.6	31.6	21.1	100.0 (19)
NIES	0.0	0.0	40.0	60.0	0.0	100.0 (5)
TOTAL	5.3	18.6	36.3	34.5	5.3	100.0 (113)

(4) FOREMAN/SUPERVISOR (****)

	100% FROM OUTSIDE	MAINLY FROM OUTSIDE	50% OUTSIDE 50% INSIDE	MAINLY FROM INSIDE	100% FROM INSIDE	TOTAL(N)
LOCAL	2.4	24.1	30.1	39.8	3.6	100.0 (83)
EURO-USA	0.0	36.4	54.5	9.1	0.0	100.0 (11)
JAPAN	0.0	5.6	16.7	44.4	33.3	100.0 (18)
NIES	0.0	0.0	80.0	20.0	0.0	100.0 (5)
TOTAL	1.7	21.4	32.5	36.8	7.7	100.0 (117)

(notes)

1) For chi-square with 12 degrees of freedom, the following symbols are used.
**** significant at 0.5 percent. *** significant at 1 percent.
** significant at 5 percent. * significant at 10 percent.

2) We excluded the samples both which replied that there was no employee concerned and which did not fill any answers.

(6) The level of "Sticking to One's Own Job"

To maintain organizational flexibility, it is vitally important for the management side to enlarge staff or workers' jobs or to make them more versatile. For this purpose it is interesting to know how the staff or workers

react to the situation when they are given additional assignment beyond the scope of their job, and to guess why they react in some way and not in other

Table 16. EMPLOYEES' ATTITUDES TO THE DEVIATION FROM THE JOB RANGE (UNIT; %, COMPANIES)

(1) MANAGER

	NO OPPOS.	NEARLY NO OPPOS.	RATHER ST.OPPOS.	ST.OPPOS.	TOTAL (N)
LOCAL	69.9	28.9	1.2	0.0	100.0 (83)
EURO-USA	66.7	33.3	0.0	0.0	100.0 (12)
JAPAN	73.7	21.1	5.3	0.0	100.0 (19)
NIES	80.0	20.0	0.0	0.0	100.0 (5)
TOTAL	70.6	27.7	1.7	0.0	100.0 (119)

(2) ENGINEER

	NO OPPOS.	NEARLY NO OPPOS.	RATHER ST.OPPOS.	ST.OPPOS.	TOTAL (N)
LOCAL	60.9	37.5	1.6	0.0	100.0 (64)
EURO-USA	50.0	50.0	0.0	0.0	100.0 (8)
JAPAN	64.7	29.4	5.9	0.0	100.0 (17)
NIES	66.7	33.3	0.0	0.0	100.0 (3)
TOTAL	60.9	37.0	2.2	0.0	100.0 (92)

(3) TECHNICIAN

	NO OPPOS.	NEARLY NO OPPOS.	RATHER ST.OPPOS.	ST.OPPOS.	TOTAL (N)
LOCAL	49.4	46.8	3.8	0.0	100.0 (79)
EURO-USA	27.3	63.6	9.1	0.0	100.0 (11)
JAPAN	57.9	36.8	5.3	0.0	100.0 (19)
NIES	60.0	40.0	0.0	0.0	100.0 (5)
TOTAL	49.1	46.5	4.4	0.0	100.0 (114)

(4) FOREMAN/SUPERVISOR

	NO OPPOS.	NEARLY NO OPPOS.	RATHER ST.OPPOS.	ST.OPPOS.	TOTAL (N)
LOCAL	48.8	45.3	5.8	0.0	100.0 (86)
EURO-USA	33.3	58.3	8.3	0.0	100.0 (12)
JAPAN	52.6	42.1	5.3	0.0	100.0 (19)
NIES	40.0	60.0	0.0	0.0	100.0 (5)
TOTAL	47.5	46.7	5.7	0.0	100.0 (122)

(5) WORKERS

	NO OPPOS.	NEARLY NO OPPOS.	RATHER ST.OPPOS.	ST.OPPOS.	TOTAL (N)
LOCAL	40.0	44.7	12.9	2.4	100.0 (85)
EURO-USA	25.0	66.7	0.0	8.3	100.0 (12)
JAPAN	50.0	50.0	0.0	0.0	100.0 (18)
NIES	40.0	40.0	2.0	0.0	100.0 (5)
TOTAL	40.0	47.5	10.0	2.5	100.0 (120)

ways.

Table 16 shows two points clearly. Firstly, we see that the job flexibility ratios are quite different by the posts or ranks of jobs. The higher the posts or ranks, the higher the job flexibility ratios. For example, the ratio of no opposition of managers is 70.6%, while that of workers is 40.0%. Needless to say, the organizational hierarchy should be maintained in this way. Secondly, along with these general rules, we see at the same time the large differences in the attitudes of employees of firms of different nationality. We observe the consistent tendency of Japanese companies to retain much more flexibility of their employees, especially engineers, technicians, foremen/supervisors, and workers when compared to that of European-USA companies. Local companies lie between them.

(7) Foreign expatriates

Multinational corporations usually employ foreign expatriates. In our samples, 83.3% of European-USA, 95.2% of Japanese, and 83.3% of NIEs companies employ expatriates. As we can see there are quite a number of arguments that Japanese companies are very slow in technology transfer, or more specifically, that there are clear tendencies for Japanese companies to retain as many expatriates as possible and as long as possible. We see this aspect in connection with human resource management.

Then how many foreign expatriates do they employ? The average numbers of foreign expatriates are as follows; 3.3 persons (S.D. 4.2) in European-USA, 7.9 persons (S.D. 9.5) in Japanese, and 8.3 persons (S.D. 4.2) in NIEs.[17] It seems that Japanese employ the most, except for NIEs whose length of operation is very short. But we must take into consideration the sizes of the companies. Among the companies which really employ expatriates, we calculate the ratio of expatriates divided by the number of employees. The ratio of expatriates are 1.13% in European-USA, 1.35% in Japanese, and 0.42% in NIEs, and it seems that Japanese companies is the highest as expected. The differences, however, are not statistically significant, but clearly that the ratio in NIEs is significantly the lowest. (Table 17) Again we must take into consideration the differences in industry composition. The ratios of expatriates by industry are as follows; food

Table 17. The ratio of expatriates (UNIT: %, COMPANIES).

	AVERAGE	S.D.	SAMPLES
EURO-USA	1.13	0.72	10
JAPAN	1.35	0.93	19
NIES	0.42	0.21	5

(T-STATISTICS)

	EURO-USA	JAPAN	NIES
EURO-USA	—	n.s.	**
JAPAN	—	—	****

(notes) See also the notes of table 5.

and beverages 1.65% (S.D. 0.85), textiles and garments 0.88% (S.D. 0.65), chemical and pharmaceutical 1.14% (S.D. 0.97), steel and machines 1.66% (S.D. 1.02), and other manufacturing 0.71% (S.D. 0.39). Admittedly the differences in industry composition among capital ownership groups should affect the differences in the ratio of expatriates. Because of the small sample we can only compare Japanese and NIEs companies in the textile industry, and Japanese and European-USA companies in the chemical industry. Table 18 shows the results. We cannot find a significant difference between Japanese and NIEs companies in the textile industry, but there is a significant difference between Japanese and European-USA companies. Thus even if we control for industry, the ratio of expatriates of Japanese companies is higher than that of European-USA companies. Then, we must consider why Japanese companies retain more expatriates over such a long period.

For this specific purpose, we got the regression results as shown in Table 19. From these results we can say firstly that for European-USA companies, the higher the university graduates' ratio, the higher the ratio of expatriates, and secondly that for Japanese companies, the higher the college graduates' ratio, the higher the ratio of expatriates. Here the company operation period has no effect on the decrease of the ratio of expatriates.

What, then, do these findings mean? We should understand it in this way: Firstly, we think both the university graduates' ratio for European-USA companies and the college graduates' ratio for Japanese companies could be proxy for the level of technology. So, the higher the technological level, the greater the number of expatriates needed. Tsurumi (1980) asserted that 'even a slight difference in the complexity of the technology affects the number of Japanese expatriates' (p.309) and Horaguchi's findings (1992 chap. 4) that the Japanese companies with more advanced technology have a strong propensity to send more expatriates abroad to transfer their technology smoothly come into line with our findings. Secondly, there is a striking contrast between European-USA companies and Japanese companies when we see which human resources have more importance in technology, that is, European-USA companies put more importance on university graduates and Japanese companies put more importance on college graduates, although there are

Table 18. The ratio of expatriates in textile and in chemical industries (UNIT: %, COMPANIES)

(1) in textile

	AVERAGE	S.D.	SAMPLES
JAPAN	1.05	0.63	7
NIES	0.30	0.29	2

(T-STATISTICS) No significance at 10% level.

(2) in chemical

	AVERAGE	S.D.	SAMPLES
EURO-USA	0.71	0.40	6
JAPAN	2.00	1.29	3

(T-STATISTICS) Significant at 5% level.

Table 19. The results of regression

(1) European-USA companies equations;	(1)	(2)	(3)	(4)	(5)
a. dependent variables; the ratio of expatriates	same	same	same	same	same
b. independent variables; univ. graduates ratio	0.0824	0.0738	—	—	—
	(2.445)*	(2.485)**			
college graduates ratio	−0.0423	—	0.0129	—	—
	(−0.930)		(0.256)		
company operation period	0.0118	—	—	0.0118	—
	(0.944)			(0.825)	
foreign equity ratio	—	—	—	—	0.9288
					(0.800)
c. constant	0.4325	0.3150	0.9995	0.9170	0.5252
d. adjusted R square	0.3069	0.3648	0.0081	−0.0371	−0.0416

(2) Japanese companies equations;	(1)	(2)	(3)	(4)	(5)
a. dependent variables; the ratio of expatriates	same	same	same	same	same
b. independent variables; univ. graduates ratio	0.0816	0.1138	—	—	—
	(0.663)	(1.263)			
college graduates ratio	0.1455	—	0.1122	—	—
	(2.094)*		(2.550)**		
company operation period	0.0315	—	—	0.0358	—
	(0.733)			(0.723)	
foreign equity ratio	—	—	—	—	−0.6245
					(−0.408)
c. constant	0.5938	1.1981	1.0173	0.9254	1.9326
d. adjusted R square	0.2208	0.0408	0.2822	−0.0354	−0.0685

(notes)

1) Figures in parentheses represent T-values.

2) The following symbols are used.

** Significant at 5 percent. * Significant at 10 percent.

3) Foreign equity ratio = {% of (0–49%) proportion of foreign capital} × 0.25
+ {% of (50%) proportion of foreign capital} × 0.50
+ {% of (51–99%) proportion of foreign capital} × 0.75
+ {% of (100%) proportion of foreign capital} × 1.00 ÷ 100.

By this difinition, the foreign equity ratios of European-USA and Japanese companies are 0.645 (S.D. 0.249), 0.613 (S.D. 0.190) respectively. There is no difference between them by T-statistics at 10% level.

significant correlations between the university graduates' ratio and the college graduates' ratio in both pairs. (For European-USA companies at 10% level, and for Japanese companies at 0.5% level. We omit the data presentation.)

4. CONCLUDING REMARKS

After the mid-1980s, being supported by the export-oriented policy measures, the Indonesian economy has experienced both a very rapid growth of export and the surge of FDI coming into Indonesia. The speed of new investment increase from Asian NIEs is spectacular. At the same time, their investments have a clear tendency of export-orientation. Needless to say, the old investments of American, European, and Japanese countries also began to look for export possibilities in this era.

As we saw, because of its initial nature of operation, NIEs companies have outstanding characteristics in the field of human resource development and management. They are aggressively recruiting new workers and increasing their employment. At the moment, local personnel occupy the lower positions and companies are investing into these newcomers in the production line. When we see industrial relations, NIEs companies especially seem to be facing serious problems. One of the reasons for this phenomenon is their immaturity in building up the system in such fields as communication with their employees, and know-how of upgrading working conditions. These characteristics may originate from the above mentioned situation rather than its ownership attributes, although this statement remains hypothetical.

When we see the employment of highly educated personnel, especially university graduates, both Japanese companies and American-European companies are in striking contrast. American-European companies not only have a strong propensity for employing university graduates, but also place more importance on preparing career paths for graduates than Japanese companies do. In other words, as we have observed, Japanese companies provide the lowest initial position and also the lowest ceiling position, while European-USA counterparts provide the highest initial position, the highest ceiling position, and the widest promotion range. In this case, Japanese companies cannot avoid facing problems with recruitment and also with retaining graduate workers. In fact, Japanese companies may tend to substitute university graduates with college graduates who have studied three years or less after senior high school. However, for those who have lower educational background, Japanese companies provide comparatively wider promotion possibilities than European-USA companies.

Both internal training and promotion and the maintenance of job flexibility are the more prominent features of Japanese companies. Japanese companies have a rather strong tendency to rely on internal human resource development.

They take employees from the bottom jobs, invest into these human resources mainly through OJT, and treat them according to their work abilities after a longer evaluation period. Employees' abilities are appraised by their capabilities not only in accomplishing their duties at hand but also in both working flexibly and helping other junior colleagues. In this way, employees are motivated to become more flexible for job demarcation within organizations.

When we see the findings which show that the higher the technology, the greater the number of foreign expatriates are needed, it is quite problematic to criticize the Japanese companies tend to retain more expatriates and for a longer period. If higher technology requires more highly educated manpower, and if Japanese companies rely more on personnel with less educational background, then more expatriates should be needed in technology transfer. Solving this problem is indeed essential for Japanese companies, especially when we consider both the limitations of potential expatriate supplies from Japan and the costs of dispatching such personnel. Thus, it seems crucial that we examine more precisely the role of expatriates and the control systems of global companies today.

NOTES

(1) Currently, the industrial sector in Indonesia is characterized that state and public companies play an important role in strategic material production, such as the basic chemical industry connected with the oil and gas sector. In the so-called most capital-intensive sectors such as basic metal industry, government leads the production of steel and aluminium ingots, and there are no foreign companies in oil-refinery, steel, fertilizer, and ship-building industries out of manufacturing. Thee and Yoshihara (1987, p.343) characterized "the Indonesian industrial structure as 'upstream socialism, downstream capitalism'."

(2) Basically the figures rely solely on Hill (1990b·1991).

(3) Based on the 1983 data, the conclusion that value added per employee of foreign firms is higher than that of local private firms was statistically significant at 1 percent level in the case of the disaggregated data (5-digit, 45 observations) and so at 5 percent level in the case of the less disaggregated data (3-digit, 23 observations). (See Hill 1988, table 6.6.)

(4) The general features of this questionnaire survey are as follows:

1. The period of the survey and its methodology; The questionnaire was sent by mail to the 1,000 companies which are affiliated with APINDO (The Employers' Association of Indonesia) with cooporation of APINDO. 177 questionnaires were returned by mail. Out of 1,000, there were 6 questionnaires which could not be delivered properly and returned to sender. Therefore, the valid collection rate was 17.8%. The survey was conducted from July to October in 1992.

2. The companies which are included in this survey were selected from such industries as construction, manufacturing, commerce, hotel/restaurant/entertainment/travel industries, transportation, banking/finance/insurance, plantation,

professional service industry. In manufacturing, companies which have at least 200 employees are selected, and in non-manufacturing sectors, companies which have at least 100 employees are selected. By districts, 620 companies are selected from Jakarta and the surroundings, 140 companies from the rest of West Java, 80 companies from Central Java, 120 companies from East Java, and 40 companies from the remaining area.

3. The some attributes of 131 samples in manufacturing;

a) By nationality of capital ownership, local 69.5%, European-USA 9.9%, Japanese 16.0%, NIEs 4.6%.

b) Average number of employees is 1,563 persons (Standard Deviation-S.D. 3,922). By size of employees, less than 299 persons 21.4%, 300–999 persons 46.6%, 1,000–4,999 persons 26.7%, and more than 5,000 persons 5.3%.

c) The length of operation of companies is on average 17.8 years (S.D. 13.8).

d) The composition of sub-industry is as follows; food and beverage 10.7%, textile and garments 22.9%, chemical and pharmaceutical 16.0, steel and machines 18.3%, other manufacturing 32.1%.

e) The ratio of companies which are organized by trade union is 74.0%.

(5) Foreign firms' importance is understated when we see only the foreign equity participation in Indonesia. 'Indeed, there is hardly a large firm which has not had some type of contractual relationship with a foreign party' (Hill 1992 p.231). There are many types of arrangement between domestic firms and foreign firms, including equity joint ventures, contractual arrangements, and combinations of both for a variety of reasons (Thee 1990).

In fact, in our samples, out of 90 local companies, there are 31 companies (34.4%) which employ foreign expatriates. These companies are highly concentrated in the textile industry which accounts for 45.2% of local companies with foreign expatriates, compared with other local companies without foreign expatriates whose share of the textile industry is only 10.2%. (Within the textile industry 70% of them rely on some foreign expatriates.) This difference of industry composition is highly significant at 0.5 percent level by the chi square, 7 degrees of freedom. Other significant differences between them are as follows: From these figures, the B group companies (with foreign expatriates) have more sophisticated relationships with their employees in communication and have younger employees than the A group companies (without foreign expatriates). However, the B group faces a much higher turnover of employees than the A group, and their emphasis on retention of the tertiary-educated manpower is admittedly weaker than that of the A group. These differences could result from the fact that the A group has accumulated more educated and skilled manpower and can be more independent from relying on foreign expatriates.

	A	B	significance
Average age of employees (years)	30.5	27.3	** (t-statistics)
University graduates ratio of total employees (%)	3.9	2.2	* (t-statistics)

College graduates ratio of total employees(%)	2.7	1.6	*** (t-statistics)
University graduates ratio of recruitment (%)	15.0	6.4	** (t-statistics)
Turnover ratio (%)	13.8	47.0	* (t-statistics)
Trade union organized (yes, %)	62.5	83.9	** (D.F. 1, chi square)
Regular meetings between management & trade union / employee representatives (yes, %)	25.4	61.3	**** (D.F. 1, chi square)

(notes) 1) A: local companies without foreign expatriates.
B: local companies with foreign expatriates.
2) The following symbols are used.
**** significant at 0.5 percent. *** significant at 1 percent.
** significant at 5 percent. * significant at 10 percent.
3) N.a. is excluded from the calculations.
4) Before calculation of t-value, f-value are used at 5 percent level to distinguish whether the two observations have the same population variance or not.

(6) The country's sectoral composition of realised equity plus loans investment in manufacturing 1967–1985 shows that Japan concentrates in basic metals (59%), textiles (18%), and metal goods (9%), the USA (and more or less Europe) concentrates in chemicals (59%), metal goods (29%), and non-metallic minerals (8%) (Hill 1988, table 4.5). But the Japanese concentration in basic metals mostly comes from the Asahan which is strongly connected with the government project (ibid., p.84); we therefore conclude that Japanese private sector investments concentrate in textiles and the USA's concentrates in chemicals (See also Thee 1984.). On the other hand, Asian NIEs's realised equity plus loans investment in manufacturing 1967-June 1989 concentrates in textiles (25%), chemicals (25%), and wood (14%). (Calculated from the table 8 in Thee (1991).)

(7) Based on the case studies of skill formation in the machine industry (Yamamoto 1987, Yamamoto 1990) has extended his research to divide the labour force basically into these two types. The first type is called 'the self-development type,' which accumulates working experiences for the upgrading of its own skill. The second type is called 'the watch and wait type,' which intentionally watches and waits for good employment opportunities suitable for its educational background while even engaging in casual jobs. Local companies tend to prefer the former type, and Japanese companies tend to prefer the latter type. This is because Japanese companies employ new school leavers as well as 'the watch and wait type' in the same category, train them, and upgrade their skills within the organization. Within Japanese companies the internal labour markets are more deeply formed to make it possible for workers to be promoted to higher positions with their skill upgrading.

(8) The differences of female ratio by industry are as follows: food and beverage = 42.2%, textile and garments = 48.9%, chemical and pharmaceutical = 29.2%, steel and machines = 19.5, other manufacturing = 35.5%.

(9) The female ratios in textile and garments are 58.3% for local companies, 24.9% for Japanese companies, and 34.0 for NIEs companies. Those of local and NIEs companies are much higher than those of Japanese companies, though statistically the difference between NIEs and Japanese companies are not significant, maybe because of the insufficient observations of NIEs companies.

(10) We cannot get the general data on how many university graduates and college graduates are employed as employees in manufacturing. However, the ratios of university graduates and college graduates in manufacturing as a whole are 0.69% and 0.69% respectively, though these levels should be much lower than those of employees in the same industry. The data are derived from BPS, *Labor Force Situation in Indonesia 1992*. Incidentally, Yamamoto (1990 p.49) shows that in his manufacturing samples the ratios of both univesity and college graduates are 8.4% for Japanese companies (out of 776 employees) and 5.5% for local companies (out of 454 employees). In our company samples the ratios of both univesity and college graduates are 5.6% for local companies, 18.8% for European-USA companies, 6.0% for Japanese companies, and 4.1% for NIEs companies respectively.

(11) See the tables below. Incidentally, there is no statistically significant differences of the tertiary graduate ratio in the textile industry among capital ownerships excluding European-USA companies which have no samples in this industry.

1. The Ratio of University Graduates in the chemical industry
(UNIT:%, COMPANIES)

	AVERAGE	S.D.	SAMPLES
LOCAL	7.6	3.9	10
EURO-USA	9.8	2.5	7
JAPAN	5.4	5.2	3

(T-STATISTICS)

	EURO-USA	JAPAN
LOCAL	n.s.	n.s.
EURO-USA	—	*

2. The Ratio of College Graduates in the chemical industry
(UNIT:%, COMPANIES)

	AVERAGE	S.D.	SAMPLES
LOCAL	4.9	3.2	10
EURO-USA	10.2	5.5	7
JAPAN	9.2	10.7	3

(T-STATISTICS)

	EURO-USA	JAPAN
LOCAL	**	n.s.
EURO-USA	—	n.s.

(notes) See the notes of table 5.

(12) Lengh of operation (UNIT: YEARS, COMPANIES)

	AVERAGE	S.D.	SAMPLES
LOCAL	19.2	15.0	87
EURO-USA	16.8	15.0	13
JAPAN	15.4	5.9	21
NIES	7.5	6.7	6
TOTAL	17.8	13.8	126

(T-STATISTICS)

	EURO-USA	JAPAN	NIES
LOCAL	n.s.	*	*
EURO-USA	—	n.s.	n.s.
JAPAN	—	—	**

(13) According to the official data by the Department of Manpower, the projected increase in the labour supply will be 16,982,500 persons during Indonesia's Fifth Five-year Development Plan (1989/90–1993/94). The proportion of those with university education is 4.06%. On the other hand, the projected increase in labour demand during the same period will be 15,410,880, and the demand of labour with univesity education is only 1.12%. (See CSIS 1990 pp.78–79, 174.)

(14) The differences and statistical significances in both textile and chemical industries are are as follows:

1. The Turnover Rate in textile industry (UNIT: %, COMPANIES)

	AVERAGE	S.D.	SAMPLES	(T-STATISTICS)	JAPAN	NIES
LOCAL	49.8	112.6	19	LOCAL	n.s.	*
JAPAN	18.8	19.2	7	JAPAN	—	*
NIES	3.7	3.9	2			

2. The Turnover Rate in chemical industry (UNIT: %, COMPANIES)

	AVERAGE	S.D.	SAMPLES	(T-STATISTICS)	EURO-USA	JAPAN
LOCAL	4.0	3.3	11	LOCAL	*	*
EURO-USA	12.3	8.3	5	EURO-USA	—	*
JAPAN	2.1	0.6	3			

(15) The employment growth rates by industry are as follows: food and beverage −2.7% (S.D. 64.8), textile and garments 21.8% (S.D. 33.1), chemical and pharmaceutical 5.0% (S.D.15.6), steel and machines 3.0% (S.D. 12.3), other manufacturing 1.6 (S.D. 35.1). The differences and statistical significances in both textile and chemical industries are as follows:

1. The employment growth rates in the textile industry (UNIT: %, COMPANIES)

	AVERAGE	S.D.	SAMPLES	(T-STATISTICS)	JAPAN	NIES
LOCAL	21.6	30.8	20	LOCAL	n.s.	n.s.
JAPAN	17.6	24.9	8	JAPAN	—	n.s.
NIES	63.1	84.3	2			

2. The employment growth rates in the chemical industry (UNIT: %, COMPANIES)

	AVERAGE	S.D.	SAMPLES	(T-STATISTICS)	EURO-USA	JAPAN
LOCAL	4.0	5.1	11	LOCAL	**	n.s.
EURO-USA	−2.1	12.3	7	EURO-USA	—	n.s.
JAPAN	5.7	10.7	3			

(16) Both local and Japanese samples point out that there are junior high school graduates who are promoted even to middle managers and lower managers respectively, while there are none in European-USA and NIEs companies.

(17) Companies which employ no expatriates are also included in this average. So the average numbers of expatriates of the companies which really employ expatriates are a little bit higher than these figures.

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